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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,691	03/16/2004	Warren Thomas Johnson	USFMC.R.134C1	3782
28524	7590	06/10/2005	EXAMINER	
SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830			DRODGE, JOSEPH W	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/802,691

Applicant(s)

JOHNSON ET AL.

Examiner

Joseph W. Drodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1-6 is/are allowed.  
6) ☒ Claim(s) 7-13 and 15-18 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

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### ALLOWABLE SUBJECT MATTER

Claims 1-6 are now deemed to distinguish in view of recitation in claim 1 of removing the liquid-containing contaminant through an opening that is in at least one of upper header and lower header during sweeping, in a direction substantially parallel to the membrane. A plurality of prior art of record recites periodically backwashing and sweeping of membranes extending between lower and upper headers in which backwash sweep flow is introduced through the upper header and then passes outside of the membranes to be released through openings in the side walls of housing for the membrane. Openings in the header are disclosed as being only for release of permeate from the membrane modules during filtration operation with backwash flow being conducted into the membrane modules through only one, or alternatively through both of the headers into the membranes.

The following is a quotation of the appropriate paragraphs of 35 U.S.C

. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Rabie et al patent 6,547,968, newly cited.

Rabie et al disclose membrane module 4 comprising arrays or bundles of hollow fiber wall membranes extending between upper and lower potting headers 26 and lower potting head 7, the headers having openings to permit outlet lines 30 (column 3, lines 7-18). Filtration is periodically interrupted with cleaning, backwashing, scouring and sweeping steps wherein air bubbles are swept along both inner and outer surfaces of the membrane bundles, in backwash and sweeping steps, effluent being drained from the modules through lower openings, below the level of the membrane module header to drain outlets 42.

For claims 1 and 7, sweeping of solids is alongside/parallel to the membranes with solids-containing concentrate removed through the same openings where some of the air bubbles are introduced (column 7, lines 25-44, especially lines 39-44).

For claim 8, bubbles pass along both inner and outer surfaces of the membranes by an air lift effect (column 4, lines 20-22).

For claim 9, concurrent sweeping and cleaning occurs as air bubble cleaning may be continuous and backwashing intermittent, see column 4, lines 23-34..

For claims 10,11, sweeping may be of higher pressure with the aid of a pump (column 4, lines 37-38).

Claims 12,13 and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kopp et al patent 4,935,143, of record.

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Kopp et al disclose, especially in the figure 1-4 embodiments, filtration with membrane module(s) 11 comprising headers 13 and 14 at either end through which permeate can be release to flow out of vessel at outlet 16, or backwash fluid can be introduced. In the embodiment of figure 7, the membrane modules are vertically oriented with the headers becoming upper and lower headers. Backwashing of the modules so that fluid sweeps the vessel and gaseous cleaning such that periodically pressures are raised so that the gas forms bubbles, the gas being introduced through the lower lumen (i.e. "header") of the module is disclosed at column 8, line 59-column 9, line 36). For claim 13, filtrate is withdrawn from the upper header through line 65 (column 8, lines 3-9). For claims 15 and 16, concurrent backwashing cleaning with liquid and introduction of air containing bubbles to scour is found at column 19, lines 18-36. For claims 17 and 18, the sweeping may be of relatively high velocity when flow patterns are changed or high pressures are applied (column 8, lines 24-29 and column 9, lines 6-8 and 18-22).

Applicant's arguments with respect to claims 7-13 and 15-18 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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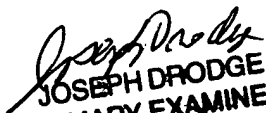
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

June 8, 2005

  
JOSEPH DRODGE  
PRIMARY EXAMINER